

What is claimed is:

1. A masterbatch pellet mixture comprising a mixture of a high specific gravity masterbatch pellets group (A) with specific gravity within a range from 1.8 to 3.5, and a low specific gravity masterbatch pellets group (B) with specific gravity within a range from 0.5 to 1.6, wherein the high specific gravity masterbatch pellets group (A) comprises m different columnar masterbatch pellets from type 1 through to type m, each with a different specific gravity, the low specific gravity masterbatch pellets group (B) comprises n different columnar masterbatch pellets from type 1 through to type n, each with a different specific gravity, and the high specific gravity masterbatch pellets group (A) and the low specific gravity masterbatch pellets group (B) satisfy a formula (1) shown below:

$$0.5 \text{ (mm}^{-1}\text{)} \leq \sum_{p=1}^m \left(\frac{H_p}{S_p} \times R_p \right) - \sum_{q=1}^n \left(\frac{H_q}{S_q} \times R_q \right) \leq 1.2 \text{ (mm}^{-1}\text{)} \quad (1)$$

wherein symbols in the formula are defined as follows:

m: an integer from 1 to 10

n: an integer from 1 to 10

p: a type number of columnar masterbatch pellets within the high specific gravity masterbatch pellets group (A)

q: a type number of columnar masterbatch pellets within the low specific gravity masterbatch pellets group (B)

H_p: a height (mm) of columnar masterbatch pellets of type p within the high specific gravity masterbatch pellets group (A)

S_p : a bottom surface area (mm^2) of columnar masterbatch pellets of type p within the high specific gravity masterbatch pellets group (A)

R_p : a mass proportion of the mass of the type p columnar masterbatch pellets relative to a total mass of the high specific gravity masterbatch pellets group (A)

H_q : a height (mm) of columnar masterbatch pellets of type q within the low specific gravity masterbatch pellets group (B)

S_q : a bottom surface area (mm^2) of columnar masterbatch pellets of type q within the low specific gravity masterbatch pellets group (B)

R_q : a mass proportion of the mass of the type q columnar masterbatch pellets relative to a total mass of the low specific gravity masterbatch pellets group (B).

2. A masterbatch pellet mixture according to claim 1, wherein a value of a formula (2) is within a range from 1.5 to 13 (mm^{-1}), and a value of a formula (3) is within a range from 0.5 to 1.5 (mm^{-1}).

$$\sum_{p=1}^m \left(\frac{H_p}{S_p} \times R_p \right) \quad (2)$$

$$\sum_{q=1}^n \left(\frac{H_q}{S_q} \times R_q \right) \quad (3)$$

3. A masterbatch pellet mixture according to claim 1, wherein the H_p is within a range from 2.0 to 6.0 mm, the H_q is within a range from 1.0 to 3.0 mm, and values for both the S_p and the S_q are within a range from 0.1 to 2.3 mm^2 .